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ABSTRACT

An annotated bibliography approach was used in this report of a literature review/study designed to determine the effectiveness of learning centers in the classroom and to give classroom teachers a carefully planned system to ensure successful use of learning centers. The first section, which explains the rationale of using learning centers in the classroom, focuses on the need for individualization and activity-oriented materials. A definition of an effective and well-managed learning center is provided in the second section, which includes information on factors which detract from or interfere with learning center effectiveness, and suggests specific strategies needed to create successful learning centers. The third section explores the wide variety of learning centers possible, and discusses the use of learning centers in all curriculum areas and with all age groups. In addition to their annotations in the main sections of this paper, 34 books and journal articles are listed as references. A summary, conclusions, and recommendations conclude the report. (Author/LMM)

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LEARNING CENTERS: A SENSIBLE APPROACH

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LEARNING CENTERS: A SENSIBLE APPROACH

> "The curriculum is to be thought of in terms of activity and experience rather than of knowledge to be acquired and facts to be stored." (1931 Report of the Hadow Commission assessing England's primary schools)

The history of education, especially that of the twentieth century, has been characterized by an ever increasing series of movements and countermovements. Many of these movements have faded from view or have had to be greatly modified. The loss of favor with many of these "fads" has been varied, complex, and often difficult to determine. (Chastain:334) One of the reasons for the short-lived nature of new approaches is that the classroom teachers have not been frequently nor fully aware of the principles necessary for an intelligent and ongoing application of the new teaching-learning situation. (Chastain:334) One of the many strategies of education that has been developed in the past fifty years is the concept of individualizing the learning process. There are many forms of "individualization" throughout the United States and Europe. However, one learning strategy that seems to have been incorporated (to some degree or another) in all of the individualizing programs is the use of learning centers.

Children learn at different rates and through different styles; learning centers allow teachers to provide a wide variety of styles to meet the needs of students. Learning centers have become a common tool in many of today's classrooms. Learning centers have been devel-

oped for small group instruction and for the individual student. Learning centers can provide an activity-oriented approach that makes learning fun for the student. The individualized approach allows for all students to participate in learning, whereas traditional teaching methods meet the needs of only a few.

The use of learning centers in many classrooms has been an effective tool for both teachers and students. The use of activity-oriented materials has caused some problems for the classroom teacher. There has been no single solution that cures all problems, but it has been found that a few simple guidelines are all that are needed to help in making learning centers worthwhile tools.

STATEMENT OF THE PROBLEM

The inappropriate use of learning centers in some classrooms continues to be a problem. This problem can affect the overall teaching strategy. To alleviate this, learning centers must have clear-cut objectives, fun activities, and a method of evaluation. The teacher must meet these criteria when developing learning centers, or there is a danger that the centers will turn into ineffective playtime activities or busywork.

PURPOSE OF THE STUDY

The purpose of the study was two-fold. The first purpose was to determine if learning centers are an effective tool in the class-

room. The second purpose was to give the classroom teacher a carefully planned system that can insure successful use of learning centers.

ORGANIZATION OF THE STUDY

The study was divided into three major sections. The first section dealt with the rationale of using learning centers in the classroom. The first section was divided into two major areas: the need for individualization and activity-oriented materials.

The second major section of this study defined what an effective and well-managed learning center is. The first part of this section concerned itself with what does not make an effective learning center. The second part of this section dealt with the specific strategies that were needed to make a well-managed and effective learning center.

The third major section dealt with the wide variety of learning centers. This section discussed the use of learning centers in all areas of the curriculum and with all age groups.

LIMITATIONS OF THE STUDY

Fox and Franke stated that "teachers needed to develop a critical attitude toward both teacher-constructed and commercial materials to facilitate learning or provide practice." (Fox and Franke:225)

Learning centers have been an important component of many indivi-

dualized programs. This study, however, did not take into account teacher attitudes dealing with curriculum philosophy. This study was designed as a practical approach for the teacher who has been or continues to be interested in implementing learning centers as a part of the total curriculum.

DEFINITION OF TERMS

Conceptual Thinking -- "the process of thinking in which abstract concepts are related without reference to concrete situations." (Good:608)

Enrichment -- "the process of selectively modifying a curriculum by adding educational content to that which already exists." (Good:212)

Fine Motor Activity -- "any physical activity which requires highly developed small muscle coordination." (Good:10)

Gross Motor Activity -- "activity involving muscles that are not capable of a great degree of precision, as determined by the ratio of motor neurons to muscle fibers in each motor unit." (Good:10)

Individualization -- "the development of characteristics, through learning and maturation, which differentiate one individual from another." (Good:305)

Individualized Instruction -- "a type of teaching-learning in which the teacher gives consideration to the individual learner; examples are (a) guided independent study , which permits pupils at any grade level in any subject area to work on their own at their own pace under the guidance of a teacher; (b) diversified-activity individualization, which allows the pupil to to repeat activities, using multiple materials or experiences, until he demonstrates adequate mastery." (Good:305)

Instructional Materials -- "any device with instructional content or function that is used for teaching purposes, including books, textbooks, supplementary reading materials, audiovisual and other sensory materials, scripts for radio or television instruction, programs for computer-managed instruction, instruction sheets, and packaged sets of materials for construction or manipulation." (Good:307)

Interest Center -- "a harmonious grouping of materials and equipment so arranged as to emphasize some particular idea, principle, or theme growing out of children's various learning activities." (Good:85)

Learning Center -- "a loose term for an area in the classroom or some designated area in the school where there is a wide assortment of resources for learning and where the emphasis is upon making observable gains in learning and improving the pupil's self-

management of that learning." (Good:85)

Manipulatives -- "three-dimensional equipment and supplies by means of which learning is enhanced through the sense of touch." (Good:439)

Open Classroom -- "a reletively large instructional area or multiple-classroom space not separated by walls, as is the case in the traditional classroom, in which a variety of groups or classes may be working at the same time." (Good:105)

Spatial Awareness -- "a term which indicates the capacity of the organism to identify his own position in space reletive to his surroundings with constant orientation to surface, elevation, periphery, back, and front." (Good:54)

Traditional Curriculum -- "a vague term frequently applied to the academic, cultural type of education." (Good:160)

ANNOTATIONS

THE RATIONALE OF LEARNING CENTERS

The Need for Individualization

Chastain, Kenneth, "An Examination of the Basic Assumptions of 'Individualized' Instruction," Modern Language Journal.59: 334-344, November, 1975.

This article was written for the express purpose of examining the basic assumptions of "individualization." Today's society stresses the individual, perhaps in an attempt to counteract the complexity and impersonalization of an industrialized society. Being a part of the general culture, the educational system has also attempted to emphasize individuality rather than conformity. Individualized learning stresses the amount of time required by the learner to attain mastery, rather than amount of material learned. The implication is that most anyone can learn if he is given the time to do so. In order to permit the individual student to spend the amount of time necessary to learn the material, most "individualized" programs utilize some form of "Learning Activity Package" or LAPs. LAPs consist of a list of objectives, specified activities for the student to follow, and post-tests to evaluate the student's success in achieving the objectives. The LAPs are given to the student who then works through them at his own rate.

Cooke, Gary, "Open Up Your Classroom and Use Learning Centers," Teacher Education 50:22-26, Spring, 1974.

This article dealt with the wide-spread ideas about how children learn and some of the reasons why children fail. Because children learn at different rates and through different styles, the author felt educators must use different approaches to learning. One method is the open classroom. The learning center operates by focusing some of these "open" attitudes within the classroom. The learning center can be used to open up classrooms and individualize instruction on a daily basis. The author argued that it is difficult for children to build patterns of independence and self-direction in their learning if daily they depend on direct instructions from their teachers. By allowing children to make some choices in learning activities and to work on their own, they will begin to learn responsibility for their own choices.

Grittner, Frank M., "Individualized Instruction: An Historical Perspective," Modern Language Journal 5:323-333, November, 1975.

This article dealt with a historical perspective on the development of individualized instruction. During the early years of the 20th century, two plans were developed to individualize the classroom. The Dalton Plan was developed in 1919, but after world-wide attention was given to its student-centered approach, it basically faded from use. The Winnetka Plan, which operated successfully in Winnetka, Illinois from 1919 to the early 1940's, differed in many ways from the Dalton Plan. Learning was selected and taught in a continous program for the students. A second aspect of the Winnetka program was the so-called "created activities." Many of those innovations are still used today. One of the innovations that developed from an individualized approach was the learning center. Washburne, the originator of the Winnetka Plan, believed that there should be a definite separation between the routine skill areas of learning and the more creative and social aspects of learning.

Hauge, Jerry, "A Second Look at Small Group Instruction," Clearing House 53:376-378, April, 1980.

The purpose of this aritcle was to present a procedure for using small group instruction. The article was written to provide a rationale for organizing the classroom for small group instruction at all levels. It indicated what the teacher ought to consider when using these strategies, what group skills are important, the various modes of small group instruction, and evaluation of these strategies. When small group instruction is organized, the learning center becomes an effective tool in the realization of the teaching strategy. The research indicates that most people learn most effectively when they are actively involved in their own learning. There are fewer passive learners in the small group approach to teaching. The author suggested that the small group approach provides an excellent way to implement higher level learning and that it is in itself a higher learning activity.

Haynes, Margaret S., "The Open Classroom - Its Structure and Rationale," Music Educators Journal 59:40-43, November, 1972.

This article dealt with the rationale of the open classroom. The open classroom is designed to meet both external and internal needs that stimulate the learning process in human beings. Learning centers in the open classroom represent the total curriculum of the school. This arrangement is what the author believes to be the modern reform movement's answer to the old self-contained classroom. Open education is based on the recognition that children are different and learn in different ways, at different times, and from each other. The open classroom helps meet these assumptions. The use of group learning centers in an open classroom helps to promote feelings of sharing and social learning.

Kaylor, Harriet, "Individualized Instruction in Social Studies: No!," Social Education 44:322-324, April 1980.

Kaylor argued that the process of individualized instruction as diagnosing and prescribing can be said to have been borrowed from the medical profession. Kaylor stated that it was not realistic, however, for teachers to expect the same straightforward results that have been found in medicine by using the diagnosis and prescription model. A doctor sees one patient at a time, whereas a teacher attempts to diagnose many "patients" at the same time and administer the prescription as well. Kaylor was concerned that individualized instruction in the social studies does not pay off in greater academic achievement and there is the likelihood of misuse in the hands of those whose interpretation of the system is that each student works alone most of the time. Conceptual goals were being ignored while skills with discrete learning tasks were emphasized because the latter were more easily translated into individualized packets. Focusing a program on individual work neglects the need for interaction with peers according to Kaylor citing Piaget.

Searles, John, "Individualized Instruction in the Social Studies: Yes!" Social Education 44:318-321, April 1980.

This article dealt with the prevailing notion that social studies needs to be taught with groups of students only. Searles argued that social studies is not exclusively group-oriented. Individualized instruction, regardless of its form, is designed for and oriented toward individuals rather than groups. As a result, it offers advantages to learners, teachers, school systems and to that subtle human relationship which exists between the learner and the teacher. Individualized instruction offers a wider variety of methods in which to develop as much as possible the ability to think critically, however it will vary from student to student. Educators can promote growth in critical thinking and other areas only to the extent that they know the students as differing individuals. Once they know the individual differences, a program of activities based on the differences can be developed.

Shrimrom, Joseph, Learning Activities in Individualized Prescribed Instruction, Educational Resources Information Center, ED 081 845, Learning Research and Development Center, Pittsburgh University, Pennsylvania, 1973, 26 pp.

This study was devised to determine whether or not distinctive patterns of behavior exist for slow and fast learners, and whether or not the system attempts to adapt its instructional procedures to these behavior patterns. The study involved a school that has implemented the Individually Prescribed Instruction (IPI) programs. The IPI programs utilize a high percentage of task-oriented behavior. The study showed that the fast student spent twice as much time working on his assignment as the slow one. The study points out that learning activities must meet the individual needs of each student. When planning a center the children can be grouped according to their individual learning styles. Fewer activities can be given to the slower student or more time can be given to complete the tasks. The study seemed to indicate that IPI is sensitive to individual differences, since the results clearly showed two distinct patterns of behavior between the slow and fast students.

Activity-Oriented Materials

Davis, Anita Price, Individualized Instruction in the Social Studies Through Learning Centers and Contracts, Educational Resources Information Center, ED 195 472, National Council for the Social Studies, Washington, D.C., 1980, 9 pp.

Davis stated that it is essential to find appropriate methods to meet individual differences among students. Learning centers are one method that can be used to meet these individual differences in learning. Initial steps in planning a learning center and contracts include assessment of students, selection of topics of instruction, statement of rationale, formulation of rationale, development of activities and initiation and management of learning center. Evaluation is a necessary tool in determining if the center has been effective. The achievement of the established goals must be considered and the activities and materials must be assessed. The author suggested an easy-to-use checklist to help determine the value of the activities and materials used in the center.

Hirshfeld, Stephan, and Hirshfeld Stephanie, "The Use of Games in Developing Analytical and Combinatorial Reasoning," Journal of Creative Behavior 11:101-104, Second Quarter, 1977.

The authors in this article suggested that certain game-like activities for older children would help develop their analytical and combinatorial reasoning abilities described in Piagetian theory. Piaget had suggested that older children can analyze a problem situation, hypothesize multiple potential solutions, and evaluate the consequences of each. This article presented a set of activities that would provide the student with the opportunity to use these reasoning abilities. The authors stated that a teacher with full understanding of the process inherent in these activities can use it to improve a student's abstract reasoning abilities.

McCarthy, Martha M., "The How and Why of Learning Centers," Elementary School Journal 77:292-300, March, 1977.

The author of this article set out to describe why well-planned learning centers are a necessary part of today's modern classrooms. Many problems of motivation can be attributed to the fact that children are bored because the class is moving too slowly or too quickly. Some behavior problmes can also arise because children are restless when they are required to sit still for long periods of time. The author stated that these problems can be reduced by supplementing the regular classroom program with learning center activities. The teacher who designs an environment that provides for the interests and needs of individual children has at his or her fingertips a way of increasing student motivation. Clear-cut objectives are essential when developing learning centers. Learning centers were designed to promote social and academic skills, and continual assessment of the objectives is necessary if valid outcomes are to be met.

Rapport, Virginia, Learning Centers: Children on Their Own, Educational Resources Information Center, ED 090 229, Association for Childhood Education International, Washington, D. C., 1970, 86 pp.

This selection dealt with a number of specific reasons why learning centers and interest centers should be used in the elementary schools. The author believed some of the major goals in the schools should include greater self-motivation, self-direction, and the personalization of instruction. The learning center approach would appear to be one method to achieve these goals. Individualized learning and teaching with stations is an alternative to the traditional concept of seatwork, in which children stay at their desks all or most of the time, using ditto sheets or working from the chalkboard. Centers can give a much wider choice of activities each day. Children assume more responsibility for self-direction which includes recordkeeping and evaluating their own progress once the activities are completed.

Zahorik, John A., "Learning Activities: The Objectives-Seeking Function," Elementary School Journal 77:50-56, September, 1976.

This article dealt with the contrast between objectives-seeking activity and objectives-achieving activity. Objectives-seeking activity acts as a "starter." It motivates and stimulates pupils to find meaningful pursuits. In contrast, the objectives-achieving activity is an "ender." It encourages efficient acquisition of specific objectives and this brings closure. A learning center can be a very useful tool to help achieve objective-seeking activities. A student may progress as far as he needs to or he can pursue the activity much further according to his own desires.

THE EFFECTIVE AND WELL-MANAGED LEARNING CENTER

The Ineffective Learning Center

Cooper, Arlene, "Learning Centers: What They Are and Aren't," Academic Therapy 16:527-531, May, 1981.

This selection defined what a learning center is not, and what a learning center can be. Centers should not be initial teaching, should not be a teaching "program", should not reward for behavior; centers are not optional activities and are not playtime centers. Learning centers are to be used as a tool to reinforce teaching and clarify concepts that have been taught. It was stated that learning centers should be scheduled, multi-leveled, timed, and above all, fun.

Fox, Anne C., and Franke, Mary, "Learning Centers: The Newest Thing in Busy Work?" Teacher 96:30-34, December, 1978.

This study was undertaken by the authors in order to evaluate teacher-made learning centers used in the classroom. Forty teachers submitted 766 learning centers. Criteria previously developed by the authors after earlier examination of over 1,300 learning centers were listed as follows:

1) Each center must have a goal.
2) Directions must be precise and easy to read.
3) A means of immediate feedback to the student must be provided.
4) Materials should be motivating, colorful, and attractive.
5) Materials should be neat, sturdily constructed and functional.

Of the 766 centers examined, it was found that 49.6 percent had serious problems that limited their effectiveness. The authors recommended that the teachers needed to develop a critical attitude toward both teacher-constructed and commercial materials to facilitate learning or provide practice.

The Effective Learning Center

Child Development Associate, Learning Centers, Educational Resources Information Center, ED 186 145, Eastern Oklahoma State College, Wilburton, Oklahoma, 1976, 52pp.

This article reported how the environment fot the young child must be orderly to enhance development and provide for the individual needs of the children. The manner in which the total environment is organized has a great impact on the quantity and quality of the experiences which occur within that environment. It was suggested that learning centers are one way of organizing the environment. Materials and equipment are grouped according to curriculum areas and can be used for both small group and individual instruction. The article was basically a tool for the classroom teacher. The article helped to determine the kinds of centers needed for the yound child, and then gave detailed instructions for implementation for these centers. Types of centers usually included in a pre-school environment include: art, block-building, dramatic play, language, and math centers.

Cooke, Gary, "Open Up Your Classroom and Use Learning Centers," Teacher Education 50:22-26, Spring, 1974.

This article described in very specific detail what a learning center is and is not. The activities contained in the learning center are based on specific learning outcomes. A center is not a collection of games and activities to keep faster students occupied. The learning center emphasizes an active, self-selecting, and problem-solving approach to learning. A learning center may be used to

1) help children develop independent and self-directed learning;
2) introduce new concepts and skills;
3) reinforce skills and concepts previously taught;
4) provide enrichment experience;
5) help children build self-motivation through tools of self-assessment and satisfaction;
and 6) individualize instruction through the presentation of a variety of activities and materials.

The author went on to say that materials need to fit different reading and difficulty levels and should appeal to several of the senses.

Kessler, John, A Peek...at Primary Learning Centers, Educational Resources Information Center, ED 159 636, 1978, 25 pp.

This article was written to help first grade teachers design and implement a number of centers that allow the children to work independently with materials that reinforce or enrich skills being taught. The values of learning centers for the children were carefully listed. They included allowance for individual learning styles, development of self-discipline and learning to work together. The learning center at the primary level also helps to free the teacher for more direct activities or to give additional help to others.

Manning, Patricia C.,"Getting It All Together With Math Learning Centers," School Science and Math 80:703-705, December, 1980.

This article was undertaken in an effort to help math teachers in understanding what learning centers can do for their students. Learning centers can provide a new and exciting approach to the teaching of math. The author states that centers can become an extra set of hands for the classroom math teacher. Centers can reinforce skills and provide additional practice for skills. Learning centers can be an additional hand with large groups, small groups or individuals. The author felt a learning center should contain at least six basic elements:

1) A management system to show a student his turn and time at a center;
2) Clearly stated directions;
3) Definite objectives;
4) Mulit-level and manipulative activities;
5) Method of evaluation;
6) Simplicity and attractiveness.

Manual, Barbara, How to Build a Learning Station: Everything a Teacher Should Know, Educational Resources Information Center, ED 088 442, Merrimack Education Center, Chelmsford, Mass., January, 1974, 30 pp.

This article was written for the express purpose of educating the classroom teacher in designing, planning, implementing, and evaluating learning centers. The first step was to carefully plan a station that would help reinforce concepts being taught. The author stated that a learning center should parallel classroom instruction, reinforce a curriculum area, provide enrichment to various curriculum areas, and provide the framework for a social science unit which correlates different areas of the curriculum. Rules and regulations must be stated clearly because of the nature of independent work done at learning centers. A record-keeping system is essential for all centers. It should contain at least the student's name, the complete material, progression chart for each skill, and a test record card. Evaluation is very important in any learning experience. The author suggested tha all learning centers should have teacher-stated objectives.

Olsen, Turee, "The Learning Center in the Secondary School," English Journal 64:76-78, November, 1975.

The author in this selection referred to a center as a way to assist the learner. The author described the learning center as a place for using and storing materials that relate to a special interest or curriculum area; a place where ideas, materials, and activities are presented on a variety of levels of difficulty. The author's underlying philosophy of a learning center was to foster individualization of student learning. Individualization of learning through learning centers often begins early in a child's school career, and it does not need to stop at the secondary level.

Smith, Paul, and Simmons, Barbara, "Evaluating Learning Centers," Education 98:403-405, Summer, 1978.

This article discussed the importance for teachers to examine some of the practices which were occuring due to the widely accepted use of learning centers. The authors stated that learning centers should be based upon a student's individual needs, and students must be aware of the purposes for their activities. Students profit most when the setting is attractive, when materials are readily accessible, and when students are involved in the evaluation process. Teachers are responsible for the selection of instructionally sound activities, for insuring that students have necessary prerequisite skills, and for adapting materials to fit children's individual learning styles. By meeting these specific criteria for evaluating learning centers, teachers will insure that activities are educational as well as sound.

THE WIDE VARIETY OF LEARNING CENTERS

Allen, Edward D., "Learning Centers: A Report of the 1977 N. E. H. Institute at Ohio State University," Foreign Language Annals 11:669-671, December, 1978.

The purpose of the study was to find ways in which foreign language high school students could be attracted and held to foreign language classes. One solution seemed to be the creation of learning centers. Twenty-four high school Spanish teachers from Ohio, Indiana, and Michigan were invited to Ohio State University for a six-week summer institute in order to create learning centers for their advanced language classes. During the 1977 school year, two Ohio State University Ph.D. candidates visited the classrooms of every participant. The findings clearly indicated that the materials were being used effectively and that the students found the materials interesting and beneficial. In February of 1978 the teachers returned to evaluate and share their materials within the learning centers.

Althouse, Rosemary, and Main, Cecil, "The Science Center: Hub of Science Activities," Childhood Education 50:222-226, February 1974.

This article dealt with the use of science learning centers in a preschool classroom. The article discussed two issues primarily: how to set up a science center, and how to use it as a focus for science activities. The authors attempted to define a science learning center as a rich physical environment for children that allows freedom to choose from alternatives and encourages children to interact freely with materials. The science learning center should be planned so that science functions will be an integral part of the preschool classroom scene. The authors recommended a thematic approach because it gives children an opportunity to study a topic in depth. Building a series of activities around a central theme enables children to relate individual activities and isolated facts into an integrated whole. The learning center should be built around phenomena that the child encounters in his immediate enviroment.

Aufsesser, Kathryn, "Beyond the Ordinary Learning Centers in Elementary Phsyical Education," Journal of Physical Education and Recreation 51:36-38, September, 1980.

This article stressed that teaching must be individualized, informative, inventive, and above all interesting, to be truly effective. The author beautifully illustrated how learning centers for physical education can be an effective tool in the gym or on the playground. The suggested learning centers could be used to help develop gross motor skills in a fitness center which would include sensory-motor skills, balance, body image, and spatial awareness. The author suggested popular themes could be used to help develop the learning centers. An example included a Superman learning center used to build body strength and power.

Chance, Larry, "Using a Learning Stations Approach to Vocabulary Practice," Journal of Reading 18:244-246, December, 1974.

This article dealt with the implementation of vocabulary learning centers for junior high school students. The motivation behind the establishment of vocabulary learning centers was to find specific activities that motivate the students and meet the objectives of the teacher. The author suggested setting up vocabulary learning centers that allow practice in using vocabulary skills and also create friendly competition. The students were assigned to teams of four students each. The students however did not know who their partners were until the activities were completed. After the students rotated to each of the learning centers, the papers were scored and the students were given points for each activity. The author believed that not knowing the other team members until the activities were completed caused everyone to work hard and compete without antagonism.

Frank, Alan R., "Centering Interest on the Student Interest Center," Teaching Exceptional Children 7:4-8, Fall, 1974.

This article gave concrete advice for developing interest centers to meet the individual needs of special education students. While there may be commonalities among some students in some areas of instruction, other areas indicate varying needs and abilities. The task of the special education teacher then becomes one of creating a classroom environment which meets each child's educational needs. If a teacher is cognizant of student strengths and weaknesses in a given subject area, the teacher can provide materials in the center which are appropriate to the identified strengths and weaknesses of the students. The author suggested using a wide variety of materials including games, worksheets, language master activities, tapes, record player activities, filmstrips, and a multitude of manipulative devices. The article explained in some detail how to develop classroom interest centers as well as how to integrate into the classroom schedule on a daily basis.

Gagnon, Constance, "Book Boxes for Barter," Teacher 97:32-34, January 1980.

This article dealt with the versatility of a language arts learning center. The learning center is called a "mini-book center." The children, after being shown an example, actually make their own reading boxes. The children select two or three books from a list of titles collected by the teacher. Once the titles are chosen, the teacher develops tests, games, and activities for the children. After completing the activities, the children are allowed to trade with their classmates. This strategy causes the children to compete for books that they enjoy, and with more reading, comprehension improves. With the help of the children it is possible to make 25 to 30 centers that can be used over and over again. The reading boxes are designed to develop specific language arts, reading, and thinking skills. For maximum efficiency all the materials, including a checklist, should be kept in one box.

Getting Behind the Newspaper, Educational Resources Information Center, ED 188 192, Nebraska State Department of Education, Lincoln, Nebraska, 1978, 148 pp.

This article showed the usefulness that a learning center approach can provide when teaching the importance of the newspaper. The author developed a number of packets that allow the child to discover newspaper vocabulary, use of an index, identifying the five "w's" in a news article, editorials, advertising, and many more features within a newspaper. The packets were cleverly arranged so that some of the materials were not provided. This was done so that the teachers had an opportunity to practice putting together their own packets of activities.

Hainen, Judith, "Make Room for Learning Centers," Music Educators Journal 63:46-49, January, 1977.

This article dealt with the learning center in music education. Children should be assigned to specific centers at first, but they can be allowed to make their own choices after demonstrating that they are able to work independently. For the teacher who handles a large number of students, it is essential that the students learn to correct their own papers. This strategy allows the teacher to go from group to group, occasionally checking papers or folders. The author stated how satisfying it was to see a "nonsinger" play the ukelele for the first time or watch a student develop his own music in art or words.

Learning Center Ideas in Action. A How-to-Handbook for Starting An Individualized Adult Learning Center, Educational Resources Information Center, ED 094 236, Division of Career and Continuing Education, Los Angeles City Schools, California, 1973, 119 pp.

This selection dealt with the implementation of adult learning centers. Complete instructions were given to the learner at the particular center. The instructions stated what materials were to be used, the kind of equipment that would be needed, and what to do with the completed assignments. The emphasis for the centers stressed self-motivation. The activities presented ask the learner to select materials that he wants to read. There is also a built-in system for self-evaluation. The centers were in many forms and were organized differently, yet they were planned so each step is small and orderly. The reason this selection was picked for this study was to show the adaptability centers have in the learning process.

Schnare, Sharon, "The Dictionarea: A Place for Every Word!" Teacher, 96:34-36, April 1979.

This article focused on the use of a dictionary center as a means of providing extra practice for the beginner. Carefully planned centers can provide lots of varied experience in using the dictionary. Entry words, guide words, and the dictionary's relationship to other subject areas are just a few of the many skills a learning center can provide. This article showed how a center can be adapted for any level and almost any subject area.

Strauber, Sandra K., "Language Learning Stations," Foreign Language Annals 14:31-36, February 1981.

This article described how useful a learning center approach was in elementary and high school level French classes. The centers were able to capitalize on different learning styles, to provide individual attention to students who needed it, and to drill the curriculum. The approaches included vocabulary, grammar, conversation, listening, culture, and reading stations with French I, II, III and IV students. The centers were used to appeal to different learning styles by using a variety of content levels. The author found that high-interest level centers help to motivate the students. The author maintained that learning stations were very effective with foreign language students. The centers should be designed to appeal to different students' abilities and interests, and would help encourage students to continue taking foreign language courses.

Weir, Meriene J., "A Money Center," Arithmetic Teacher 28:18-20, April, 1981.

This article was written to help the primary math teacher deal with difficulties children experience going from the concept of money to the actual use of real money. The center was developed to make the transition easier by providing practice on the necessary skills through games and activities that may add excitement and variety to the process. The Money Center was originally planned for a third grade class with low to average abilities. The children had been introduced to coins and their values. The students had also been taught the concept of regrouping in both addition and subtraction, but these skills needed to be reinforced. The centers were intended for use over a period of several weeks with activities being introduced one or two a day, to small groups. The author described activities that were used effectively with the children.

SUMMARY

The study indicated that there have been many innovative methods developed over the years that have helped increase learning in the modern classroom. Individualization of learning has become a common component in American schools. Chastain concluded that the educational system has attempted to emphasize individuality rather than conformity. Cooke claimed that by allowing children to make some choices in learning activities and to work on their own, they will begin to learn responsibility for their own choices. Grittner stated that the author of the Winnetka Plan believed that there should be a definite separation between the routine skill areas of learning and the creative and social aspects of learning. According to Haynes, the open classroom should be used because it is designed to meet both the external and internal needs that stimulate the learning process in human beings. Hauge argued that small group instruction should be used in the classroom. His research indicated that most people learn more effectively when they are actively involved in their own learning. Small group instruction allows students to become more active learners. Searles argued for individualized instruction in the social studies. Searles suggesed that individualized instruction offers a wider variety of methods in which to develop the ability to think critically on social issues. The ability to think critically varies from student to student; however, once these individual differences are known, a program of activities can be developed. Kaylor argued against individualized instruction in

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the social studies. She concluded that individualized instruction does not pay off in greater academic achievement. She was concerned that the system allowed students to work alone much of the time, and conceptual skills would be ignored.

The study also indicated the value the authors placed on activity-oriented materials. The learning center has become a popular and accepted activity in many American schools. Learning centers are one method that can be used to meet the individual differences and styles in learning according to Davis. Olsen suggested that the learning center is simply a way to assist the learner. Rapport found that individualized learning and teaching with learning centers is an alternative to the traditional concept of seatwork, in which children sit at their desk for long periods of time using ditto sheets, work-books, and working from the chalkboard. The Child Development Associate Policy Advisory Council found that the environment for the young child must be orderly to enhance development and provide for individual needs. It was suggested that learning centers are one way of organizing the environment. Cooke's study indicated that a well-organized learning center emphasized an active, self-selecting and problem-solving approach to learning. Allen's research found that learning centers in the foreign language studies could attract and hold high school students' interest better than a more traditional approach. Hirshfeld and Hirshfeld found that certain game-like activities for older children would help develop their analytical and combinatorial reasoning abilities. They concluded that a number of well-planned activities could be used to improve a student's abstract reasoning abilities.

The study also found that effective learning centers are not just a collection of randomly chosen games and activities. Cooper stated that learning centers are to be used as a tool to reinforce teaching and clarify concepts that have already been taught. Fox and Franke developed a list of criteria that they felt should be included when developing a learning center. Each learning center must have a goal, directions must be precise, a means of feedback must be provided, materials should be motivating, and materials should be neat and functional. Smith and Simmons suggested that learning centers be based upon a student's individual needs, and students must be aware of the purposes of their activities.

The study also found how the learning center approach could be used effectively with all ages and with all areas of the curriculum. Althouse and Main presented a plan that included science learning centers in the preschool classroom. The centers should be built around experiences that children encounter in their immediate environment. Aufsesser suggested learning centers for physical education. Centers could be used for development of gross and fine motor activity. Chance suggested vocabulary learning centers for the junior high school student. Centers could be used to motivate the students and meet the objectives of the teacher. Frank described how a variety of learning centers could be used with special education students. The special education teacher, through the use of centers, can create an environment that will meet each child's educational needs. Hainen discussed the learning center for music education. A music making center would allow students to practice

making music for future presentation. Weir presented a plan that would help third grade students deal with the concept of money. The centers were developed to help the children go from the concept of money to the actual use of real money.

CONCLUSIONS

It was concluded that individualized instruction has become an established philosophy in many school systems throughout the United States. Individualization of the curriculum takes on many forms and characteristics. It was also concluded that individualized instruction has a positive effect on learning outcomes. In addition, it was also concluded that individualized instruction can be adapted for all ages and all areas of the curriculum.

It was concluded that learning centers have been an important tool in the individualized classroom. It was concluded that learning centers meet many student and teacher needs. Reinforcing concepts, clarifying skills, motivating students, and meeting individual needs were cited as the rationale behind the use of learning centers for all students in the classroom. Learning centers meet the teachers' needs by meeting goals and objectives, and learning centers also give teachers more time to work with small groups or individuals.

It was also concluded that it was necessary for the classroom teachers who had decided to use learning centers to develop and plan their activities carefully and with specific objectives in mind.

Finally, it was concluded that learning centers must be continually evaluated so that achievement of teacher goals is met.

RECOMMENDATIONS

It is recommended that:

1) Teachers who wish to use learning centers in the classroom study their particular environment and the total school environment. Successful learning centers in this study were in classrooms that emphasized individual learning.

2) Teachers examine their own style of teaching before a decision is made for the use of learning centers in the classroom. Learning centers involve careful planning and updating. Not all educators are willing to devote the necessary time it takes to develop effective learning centers. It would most likely be best for those teachers who wish to begin using learning centers in their classrooms to seek peer advice and approach the use of learning centers slowly.

3) When learning centers are being developed, teachers be sure that the activities are based on specific learning outcomes. Successful learning centers are carefully planned and organized. Well-managed learning centers meet the goals stated by the teacher. The classroom teacher must also continually evaluate his learning centers.

4) Teachers use learning centers in different areas of the curriculum. It has been found that all areas of the curriculum can be adapted for activity-oriented learning. Educators need to realize that schools must try to meet the needs of all students.

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